

# IMPACTS

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Office of Research & Development (12)  
Veterans Health Administration  
Department of Veterans Affairs  
810 Vermont Avenue, NW  
Washington, DC 20420  
Telephone: (202) 273-8284

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# CONTENTS

A Message from the Chief Research and Development Officer	i
Designated Research Areas	ii
1 Aging and Age-Related Changes	1
2 Acute Illness and Traumatic Injury	3
3 Military and Enviromental Exposures	4
4 Chronic Diseases	6
Heart Disease	7
Cancer	8
Neurological Disorders	9
Osteoporosis / Osteoarthritis	13
Liver / Kidney Disease	14
5 Sensory Disorders	16
6 Mental Illness	18
7 Substance Abuse	20
8 Special Populations	22
9 Health Services and Systems	24

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## A Message from the Chief Research and Development Officer



The Office of Research and Development (ORD) focuses on health problems prevalent among veterans. This highly accomplished program spans the range of biomedical, clinical, health services, rehabilitation, and epidemiologic research. The mission of the VA research program is to discover knowledge and create innovations that advance the health and care of veterans and the nation. VA scientists are leaders in the development of cutting-edge health-care technology and are dedicated to their commitment in providing the best possible care for our veterans.

While pursuing the common goal of improving health care for veterans and the nation, the four services of VA research each bring unique strengths to our endeavor.

The **Cooperative Studies Program**, that I have the privilege of directing, is one of the most recognized large-scale clinical trial programs in the world. This program determines the effectiveness of new therapies through multi-center clinical trials. Investigators collaborate with colleagues across the nation and around the world to test new treatments that benefit veterans as well as the general population. Ongoing efforts range from testing the effectiveness of a vaccine against shingles in the elderly to determining whether intensified blood-sugar control can prevent major vascular complications in type II diabetes.

The **Medical Research Service** (MRS) is led by Paul Hoffman, M.D., and has a major role in serving veterans through its achievements in basic and clinical research. Major advances and contributions as a result of MRS research include the successful treatment of tuberculosis, the first successful liver transplant, the concept that led to development of CAT scan, drugs for treatment of mental illness, and development of the cardiac pacemaker. New research is focusing on unraveling further the mysteries of cancer, multiple sclerosis, depression, stroke, Alzheimer's disease, Parkinson's disease, and diabetes.

The **Health Services Research and Development Service** (HSR&D) is led by John Demakis, M.D., and is a leader in identifying effective and efficient ways to organize and deliver health care. Eleven HSR&D centers of excellence that focus on linking research to patient care. In addition, the HSR&D Quality Enhancement Research Initiative (QUERI) is translating research results into improved patient care. It targets conditions common among veterans, including chronic heart failure, diabetes, stroke, and spinal cord injury.

The **Rehabilitation Research and Development Service** (RR&D), led by Mindy Aisen, M.D., conducts research designed to maximize independence for patients by restoring lost function or decreasing the impact of disability. Research achievements range from new technology in the areas of amputation, spinal cord injury, vision impairment, and hearing loss to disabilities associated with aging. Recently, RR&D enhanced stroke therapy by being the first to demonstrate that robot-assisted neurorehabilitation is more effective than conventional treatment.

VA continues to focus on its mission of providing excellent health care for America's veterans. VA researchers have long played key roles in developing important health care innovations and are dedicated to keeping VA at the forefront of science and medicine. I am pleased to present this document highlighting some of their major recent achievements.

JOHN R. FEUSSNER, M.D., M.P.H.

# DESIGNATED RESEARCH AREAS

## AGING AND AGE-RELATED CHANGES

- ♦ NORMAL AGE-RELATED CHANGES
- ♦ AGING SYNDROMES (*FRAILITY, IMMOBILITY, FALLS*)
- ♦ COMPOUND PROBLEMS AND COMORBIDITIES  
(*COEXISTING DIABETES AND CORONARY ARTERY DISEASE, DEMENTIA, HIP FRACTURE*)
- ♦ CARE OF ELDERLY VETERANS
- ♦ END OF LIFE ISSUES

## ACUTE ILLNESS AND TRAUMATIC INJURY

- ♦ AMPUTATION (*DUE TO INJURY OR DISEASE*)
- ♦ BONE FRACTURES AND JOINT INJURIES  
(*REPAIR AND REPLACEMENT*)
- ♦ (*TRAUMATIC*) BRAIN INJURY
- ♦ MULTI-ORGAN FAILURE
- ♦ SHOCK (*SEPSIS*)

## MILITARY AND ENVIRONMENTAL EXPOSURES

- ♦ EMERGING PATHOGENS
- ♦ POST-TRAUMATIC STRESS DISORDER (*PTSD*)
- ♦ PSYCHOLOGICAL STRESS (*VIOLENCE, SEXUAL ABUSE*)
- ♦ THERMAL EXPOSURE (*BURNS, HYPOTHERMIA*)
- ♦ TOXINS AND IRRITANTS (*DERMAL, REPRODUCTIVE, RESPIRATORY*)

## CHRONIC DISEASES

- ♦ BONE AND JOINT DISORDERS (*CHRONIC LOW BACK PAIN, OSTEOARTHRITIS / OSTEOPOROSIS*)
- ♦ CANCERS (*ADULT LEUKEMIA / LYMPHOMA, SOLID TISSUE TUMORS, CANCER PAIN*)
- ♦ CARDIOVASCULAR, CEREBROVASCULAR, PERIPHERAL VASCULAR DISEASES (*MYOCARDIAL INFARCTION, STROKE, HEART FAILURE*)
- ♦ CHRONIC INFECTIOUS DISEASES (*HIV / AIDS, HEPATITIS*)
- ♦ CHRONIC LUNG DISEASE
- ♦ CHRONIC RENAL DISEASE
- ♦ DEMENTIA & NEURONAL DYSFUNCTION (*ALZHEIMER'S AND PARKINSON'S DISEASE*)
- ♦ DIABETES & MAJOR COMPLICATIONS
- ♦ GASTROINTESTINAL DISORDERS (*BOWEL AND LIVER DISORDERS*)
- ♦ SPINAL CORD INJURY & REGENERATION

## SENSORY DISORDERS AND LOSS

- ♦ HEARING DISORDERS
- ♦ VISION DISORDERS
- ♦ DISORDERS OF TASTE AND SMELL

## MENTAL ILLNESS

- ♦ ANXIETY DISORDERS
- ♦ BEHAVIORAL DISORDERS
- ♦ DEPRESSION AND MOOD DISORDERS
- ♦ SCHIZOPHRENIA
- ♦ SPECIALIZED VA MENTAL HEALTH SERVICES  
(*BEHAVIORAL AND MEDICAL INTERVENTIONS*)

## SUBSTANCE ABUSE

- ♦ ALCOHOL
- ♦ DRUG
- ♦ TOBACCO
- ♦ DUAL DIAGNOSIS (*ALCOHOL AND DRUGS*)
- ♦ SPECIALIZED SUBSTANCE ABUSE SERVICES  
(*BEHAVIORAL AND MEDICAL INTERVENTIONS*)

## SPECIAL (UNDERSERVED, HIGH RISK) POPULATIONS

- ♦ VETERANS WITH PERMANENT DISABILITIES  
(*BLIND AND PARALYZED*)
- ♦ VETERAN COHORTS DEFINED BY SHARED MILITARY EXPERIENCE (*PRISONERS OF WAR, PERSIAN GULF VETERANS*)
- ♦ HISTORICALLY UNDERSERVED VETERANS  
(*WOMEN, RACIAL, ETHNIC, CULTURAL MINORITIES, RURAL VETERANS*)
- ♦ VETERANS WHOSE LIVING ARRANGEMENTS POSE CHALLENGES TO THEIR HEALTH (*HOMELESS, HOMEBOUND*)

## HEALTH SERVICES AND SYSTEMS

- ♦ SUPPLY AND ORGANIZATION OF RESOURCES & SERVICES
- ♦ DELIVERY / COORDINATION OF RESOURCES & SERVICES
- ♦ OUTCOMES OF CARE